

Current Park Operations

This business plan differentiates between two types of expenditures: Operations and Maintenance, and Investments. Operations and Maintenance requirements are those funds needed to carry out everyday operations at a park unit. Some examples include annual payroll costs, janitorial operations, and managing a telecommunications network. On the other hand, Investments are significant one-time costs incurred to fix current problems or provide for future park development. Investments may include projects such as a resource inventory necessary to establish a credible baseline before beginning a monitoring program, or constructing a new building.

The Business Planning Process

This section of the plan focuses on the Operations and Maintenance activities of the park. In order to describe park operations for this business plan, park activities were divided into five functional areas, which describe the five areas of business for which the park is responsible. These functional area distinctions are not necessarily congruent with divisions of park management—the intent is to capture groups of tasks in terms of their common elements rather than which divisions perform them. The five functional areas are:

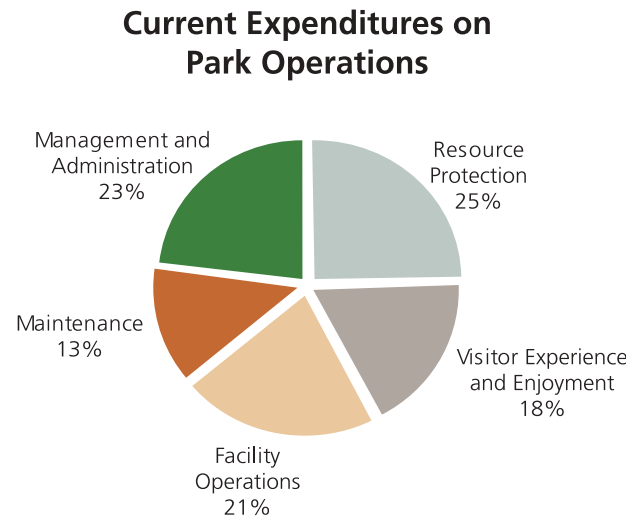
- Resource Protection
- Visitor Experience and Enjoyment
- Facility Operations
- Maintenance
- Management and Administration

These were then further broken down into 35 programs that more precisely describe park operations. Programs were general in order to cover a broad suite of activities that should be occurring in the park.

Next, a detail sheet was completed for each program. These forms described the day-to-day activities occurring in the park and the totality of financial need associated with them.

Statements of work were developed to describe the suite of activities encompassed by the program. Then operational standards were generated to describe the duties and responsibilities required to meet the critical functions of the program as stated in the statement of work. These standards were then used to determine the total financial resources required to perform the standard tasks of the program. The final step was to compare current park activities to the operational standards to identify the gaps between required and available resources.

The following pages discuss each of the functional areas in detail.



Resource Protection encompasses activities related to the management, preservation, and protection of the park's cultural and natural resources. These include research, restoration efforts, species-specific management programs, wildland fire management, archives and collections management, historic site protection, law enforcement, and information integration activities.

Visitor Experience and Enjoyment includes activities directly related to providing visitors with a safe and educational park experience. It includes all interpretation, visitor center management, interpretive media, in-park concessions management, fee collection, law enforcement, and visitor safety services.

Facility Operations includes activities required to manage and operate the park's infrastructure on a daily basis. Buildings, roads, trails, utilities, and campgrounds require a range of operational activities from basic sanitation to snow plowing to water testing.

Maintenance includes activities directed solely at prolonging the life of park assets and infrastructure through substantial repair, replacement, or rehabilitation of buildings, roads, trails, utilities, fleet vehicles, and equipment.

Management and Administration encompasses parkwide management and administrative support activities, including communications and external affairs activities, planning, human resource management, information technology, leadership, and financial management.

Resource Protection



Yellowstone is home to a free-ranging population of bison.

Yellowstone's unique biological and geological resources inspired its creation as the world's first national park in 1872. The park also recognizes the significance of its cultural resources, which range from archeological sites and artifacts to historic buildings and archives. Many of the park's resources extend beyond its boundaries, presenting constant challenges to their protection. Therefore, Yellowstone's Resource Protection programs rely on applied research and collaboration with external agencies and institutions as a foundation for an adaptive, ecosystem management approach.

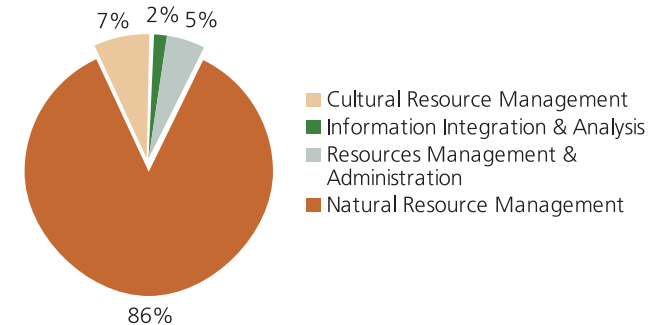
Resource Protection expenditures accounted for \$10.3M, or 25% of the park's FY02 operating budget of \$41.7M. Natural Resource Management was the largest program, representing 86% of FY02 Resource Protection expenditures. The four programs have identified \$13.5M in required funding, indicating a shortfall of \$3.3M, primarily occurring in the areas of Natural and Cultural Resource Management.

The Resource Protection functional area includes the Yellowstone Center for Resources and elements of the Resource Management and Visitor Protection, and Maintenance Divisions. Resource Protection includes the following programs:

Cultural Resource Management: This program protects the legacy of the park's American Indian and European-American inhabitation. Cultural resources staff research, monitor, protect, and restore 1,100 known archeological sites and 951 historic structures; only 2% of the park has been inventoried for such features. Cultural resources staff also operate the park's library, archives, and photo and museum collections, numbering some five million items. Yellowstone is the only national park whose archives have been designated a branch of the National Archives and

Yellowstone's Resource Protection programs rely on applied research and collaboration with external agencies and institutions as a foundation for an adaptive, ecosystem management approach.

**Resource Protection
FY02 Expenditures by Program**



Total Required		Available		Shortfall	
FTE	Funds	FTE	Funds	FTE	Funds
187	\$13,549,365	128	\$10,256,792	(59)	(\$3,292,573)

Records Administration. Starting in 2004, cultural resources staff will operate the Heritage and Research Center, a new facility that will bring the park's ability to store those collections up to federal standards (a parkwide priority). The program has also increased efforts to develop productive relationships with the network of 26 federally-recognized tribes that have shown traditional association with Yellowstone. To support these functions, Cultural Resource Management includes subprograms in Archeology; Ethnography; Historic Landscapes and Structures; and Library, Museum, and Archives.

Because Yellowstone's heavy visitation requires extensive resource protection activities to prevent resource degradation resulting from everyday visitor use as well as from theft, destruction, and other illegal activities, Cultural Resource Management also supports a subprogram in Cul-

tural Resource Protection, primarily involving enforcement of regulations prohibiting collection of specimens.

In order to best protect the park's cultural resources, managers must not only know what resources exist in the park, but also understand them. Cultural resources staff inventory, monitor, and continually research the park's cultural resources, and produce a variety of publications on cultural resource issues and science—all functions performed within the Cultural Resource Research, Publications, and Events subprogram.

Information Integration and Analysis: Yellowstone's Spatial Analysis Center operates a Geographic Information Systems (GIS) lab. The center also provides Geographic Positioning System (GPS) equipment and expertise; trains park staff in collecting spatial data; acquires new data and makes it useful; provides technical support; engages in research such as thermophile inventories; and makes information available to park staff, outside agencies, and the public. GIS wildfire maps, for example, provide valuable real-time information for fire crews, resource managers, interpretive rangers, and public affairs staff.

Resource Protection Management and Administration: This program is comprised of two subprograms: Resource Management and Support, and Resource Planning. The former involves a broad spectrum of management and planning activities, with the overarching intent of developing, managing, coordinating, and supervising the Natural and Cultural Resource Management programs. Functions within this program include establishing overall goals; providing supervision; managing performance; providing safety, leadership and accountability; performing financial

and personnel management; procuring supplies; and providing clerical support. Through the Resource Planning subprogram, resource managers provide expertise on a wide range of resource management and planning issues for park- and servicewide activities and projects, develop long-range plans, and perform compliance duties.

Natural Resource Management: In addition to geologic wonders, Yellowstone's natural resources are biologically diverse, from top carnivores to fish to microorganisms. The park's Natural Resource Management subprograms generate and apply current scientific knowledge to guide a minimal intervention approach. Those subprograms include Air, Soils, and Geology; Backcountry and Wilderness Management; Bear Management; Bison Management; Elk and Other Ungulate Management; Fisheries and Aquatic Resources; Other Wildlife Management; Vegetation Management; Wildland Fire Management; and Wolf Management.

Natural Resource Management also supports a subprogram in Natural Resource Protection. This subprogram is responsible for implementing projects geared toward improving the quality of the park environment, monitoring visitor activity at wildlife traffic jams, conducting backcountry patrols, and enforcing resource-related park regulations. These include fishing and boating regulations, and rules against poaching wildlife, collecting antlers and other specimens, and vandalizing thermal features.

Natural resources staff also inventory, monitor, and continually research the park's natural resources and produce a variety of publications on natural resource issues and science within the subprogram of Natural Resource Research, Publications, and Events.

Different Input, Different Output

Yellowstone has recently completed two high-profile resource management planning processes, each lasting over a decade: one for wolf restoration and another for interagency bison management. Because of differences in the initial levels of financial support allocated for the projects, these plans have seen very different outcomes.

The wolf restoration plan received significant funding early in its development. This support permitted vital research in ecology, social issues, rancher compensation, and legal aspects before the NEPA planning effort began. Despite the controversies that arose when the wolves finally arrived, the program proceeded ahead of schedule and under budget, with most stakeholders ultimately satisfied with its management. The plan's scientific foundation made it legally defensible and expedited its implementation.

The interagency bison plan, however, received little funding in its early stages. This lack of support left planners with little science with which to begin the planning process, resulting in increased Environmental Impact Statement production costs. Furthermore, without this scientific basis up front, the plan's alternatives have proved highly contentious.

Visitor Experience and Enjoyment



Ranger-led talks are a key component of interpretation in Yellowstone.

Yellowstone's three million annual visitors come to the park for a variety of reasons: to see Old Faithful, to view wildlife, to visit the Grand Canyon of the Yellowstone, to spend time hiking in the backcountry, and to enjoy the park's winter activities. Park personnel play an important role in ensuring visitors have a safe and enjoyable time.

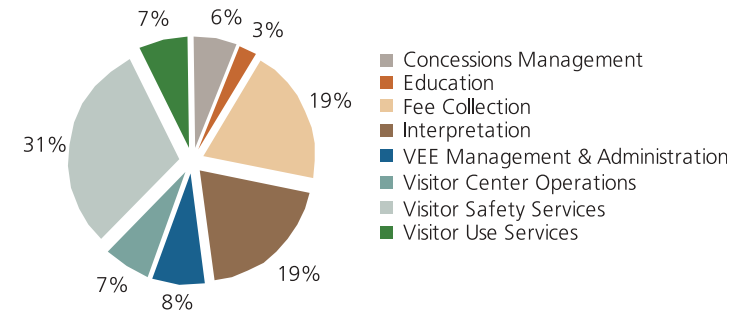
Visitor Experience and Enjoyment (VEE) expenditures accounted for \$7.3M, or 18% of the park's total FY02 available operating budget of \$41.7M. The largest programs in terms of expenditure were Visitor Safety Services (31%), Fee Collection (19%), and Interpretation (19%). The eight VEE programs have identified \$16.9M in required funding, indicating a shortfall of \$9.5M, primarily in the areas of Interpretation and Visitor Safety Services.

The VEE functional area includes aspects of the divisions of Interpretation, Business Management, and Resource Management and Visitor Protection. VEE includes the following programs:

Concessions Management: Yellowstone's Concessions Management program develops and administers 194 concessions authorizations to provide food and lodging services (2,225 guest rooms, 28 food and beverage operations, 21 gift shops, 11 grocery stores, 5 campgrounds); 3 medical clinics; employee dining rooms and dormitories; 7 vehicle service stations; a marina; livery operations for both frontcountry and backcountry; 4 public showers and laundries; and guided photography and hiking tours, among many others.

Education: Park staff develop and present curriculum-based programs for a wide audience of students, teachers, and the public. The park offers eight different education programs: *Exploring Yellowstone/ParKids*, an experiential, outdoor education, summer day program; *Expedition:*

Visitor Experience & Enjoyment
FY02 Expenditures by Program



Total Required		Available		Shortfall	
FTE	Funds	FTE	Funds	FTE	Funds
262	\$16,863,889	160	\$7,328,830	(102)	(\$9,535,059)

Yellowstone!, a residential education program for 4th through 8th grades; *Camp Wildness*, a high school field camp to be offered starting in summer 2006; *Windows Into Wonderland*, electronic field trips via the Internet; a day-use program serving local school groups; a day-use program for non-school groups (Girl Scouts, Boy Scouts, 4-H programs, Elderhostel, and teachers); and curriculum-based teacher workshops. The Education program has identified high-priority funding required to roll out a new program designed to integrate research, resource management, and education.

Fee Collection: Park personnel are responsible for collecting and managing entrance, campground, and special use permit fees. Under the direction of a fee program manager, park rangers are responsible for collecting entrance fees at the park's five entrance stations and Bechler Ranger Sta-

The goal of interpretive programs and media is to encourage the development of a personal stewardship ethic and broaden public support for preserving park resources.

tion, campground fees at seven NPS campgrounds, and special use permit fees (fishing, boating, backcountry reservations, etc.). In FY02, Yellowstone's fee collection stations collected more than \$5.8M in entrance fees, \$400K in campground fees, and \$670K in special use fees.

Interpretation: The goal of interpretive programs and media is to encourage the development of a personal stewardship ethic and broaden public support for preserving park resources. Interpretive rangers present Yellowstone to visitors through formal interpretation, such as campfire and evening programs, talks, walks, hikes, and demonstrations; and through informal interpretation, including roving patrol, wildlife-induced traffic jam contacts, winter warming hut contacts, and junior ranger programs. Yellowstone's interpretive media infrastructure encompasses approximately 500 existing and planned outdoor exhibits, 41,000 square feet of existing and planned indoor exhibits, 100 publications, audiovisual systems in campground amphitheaters and visitor centers, a radio and TV broadcast system, and a collection of 78,000 still images and 1,400 hours of video.

Visitor Experience and Enjoyment Management and Administration: Staff oversee visitor experience programs, providing supervision, scheduling, training, budgeting, planning, safety leadership, and administrative support.

Visitor Center Operations: Yellowstone's interpretive rangers manage and staff the park's five primary visitor centers (Canyon, Fishing Bridge, Grant Village, Mammoth, and Old Faithful), four information stations (the Madison Museum, Museum of the National Park Ranger, Norris Geyser Basin Museum, and West Entrance contact station) and, during winter, four warming huts (Canyon, Fishing Bridge, Madison, and West Thumb). Approximately 2.1 million visitors, or 70% of all park visitors, used Yellowstone's visitor centers in FY02.

Visitor Safety Services: Yellowstone's law enforcement rangers are primarily responsible for providing safety and security for the park's visitors and infrastructure. Specific visitor safety programs include emergency medical services (275 ambulance transports in 2002); search and rescue (66 incidents in 2002); structural fire (450 alarms and 10 fires in 2002); and law enforcement. Yellowstone is an area of exclusive federal jurisdiction, meaning that within the boundaries of the park, Yellowstone's law enforcement personnel have the sole authority and responsibility of enforcing both federal and state criminal and civil laws and regulations. The Visitor Safety Services program has identified funding required to establish a 24-hour law enforcement presence in the park's eight developed areas (defined as those with overnight accommodations), build a structural fire program, and provide full emergency medical services coverage (all parkwide priorities).

Visitor Use Services: Yellowstone provides support services for visitors planning backcountry trips and completing park permit applications.



In FY2002, 2.1 million visitors passed through the park's busy visitor centers.

Visitor Feedback

Some of the greatest evidence of how Yellowstone's visitor experience and enjoyment programs affect people's lives is communicated in the hundreds of personal letters the park receives annually:

"I wish I could partake in Expedition: Yellowstone! over and over again...I started reflecting on my experience and it is encouraging and enlightening, as a teacher, to witness such bright and enthusiastic learners express their gratitude for the knowledge they have gained. Yellowstone is magical and these students have experienced and participated in its deepest magic. As a parent, I would give anything for my child to participate in this learning opportunity because of the massive rewards. The growth that these kids went through was truly astonishing."

—Mr. Shadrick, Teacher and Parent

"Rangers Trudy Patton and Carolyn Loren did a truly outstanding job on their evening presentations. It's truly heart warming to know that I (a taxpayer) have such exceptional employees."

—Jerry Brove, Visitor

"We took the geyser geology walk this morning with Shannon, one of the best guides we've had in our visits to the various national parks. She related beautifully to the group, was enthusiastic and knowledgeable, and made our walk a great learning experience."

—Mindy and Hal Sussman, Visitors



The park operates six wastewater treatment facilities that must meet state and federal requirements.

Yellowstone's facilities and infrastructure are distributed across seven districts that are geographically separated over 2.2 million acres.

Facility Operations

Yellowstone's facilities and infrastructure are distributed across seven districts that are geographically separated over 2.2 million acres. Park staff oversee the daily operation of campgrounds, buildings, restroom facilities, grounds, roads, trails, transportation systems, and utilities.

Facility Operations expenditures accounted for \$9M, or 21% of the park's total FY02 available operating budget of \$41.7M. The largest programs in terms of expenditure were Utilities Operations (31%), Roads Operations (20%), and Buildings Operations (13%). The nine Facility Operations programs have identified \$12.4M in required funding, indicating a shortfall of \$3.4M, primarily in the areas of Roads and Buildings Operations.

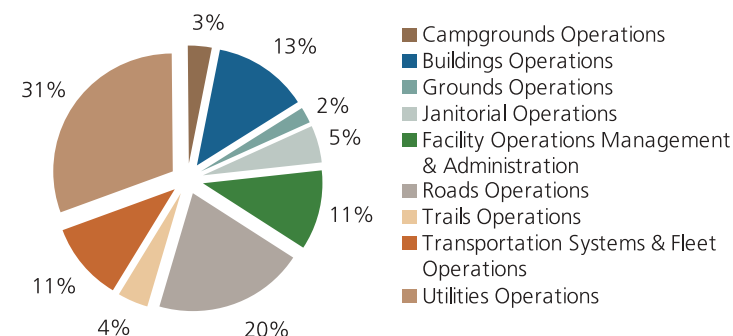
The Facility Operations functional area includes aspects of the divisions of Maintenance; Resource Management and Visitor Protection; and Business Management. Facility Operations includes the following programs:

Campgrounds Operations: The park operates 7 campgrounds, with 454 campsites and their associated restrooms, picnic tables, fire grates, and bear-resistant food storage boxes. A concessioner operates the remaining five campgrounds. The park also manages 52 picnic areas and 7 outdoor amphitheaters.

Buildings Operations: Yellowstone owns 1,541 buildings. Concessioners (under park oversight) operate and maintain 831 of these facilities. The park is responsible for the remaining 710 facilities, including 454 housing units. Park-operated facilities include administrative buildings, visitor centers, wastewater treatment plants, maintenance facilities, a jail, and other support buildings. Park staff perform a wide variety of interior and exterior tasks required to keep these structures operational.

Grounds Operations: Park personnel maintain approximately 200 acres of developed grounds. Work activities

**Facility Operations
FY02 Expenditures by Program**



Total Required		Available		Shortfall	
FTE	Funds	FTE	Funds	FTE	Funds
160	\$12,356,109	123	\$8,953,951	(36)	(\$3,402,158)

such as mowing, trimming, pruning, irrigating, and sodding ensure that planted turf, shrubs, trees, and other plants remain healthy. Grounds Operations for Yellowstone Lake (87,000 acres) include the inspection of docks, gangways, and bulkheads; control of wave erosion; and installation of navigation networks.

Janitorial Operations: During the summer season, up to 600 people per hour can use a single park restroom, requiring staff to replace approximately 50 rolls of toilet paper daily. This use creates a significant workload for staff who operate 104 vault toilets; restrooms in 9 visitor centers and contact stations; comfort stations; and toilet facilities in 53 administrative buildings, all requiring supplies, daily cleaning, and monthly deep cleaning. Staff also regularly vacuum floors, wash windows, empty trash cans, and provide other janitorial services.

Facility Operations Management and Administration:

Management provides executive oversight and administrative support for the facilities operations program, and is responsible for the overall planning, organization, direction, and budgeting of all facility operations.

Roads Operations: Park staff strive to ensure that the park's 466 miles of roads are safe, regularly checking for hazards such as rockfall, fallen trees or limbs, potholes, and washed-out shoulders. Personnel also create and install signs. Yellowstone's rugged conditions require season-specific activities to make the park accessible to visitors, including installing 7,000 snow poles; grooming 184 miles for travel by oversnow vehicles; performing avalanche control; plowing and sanding during winter; and conducting spring snow removal activities to prepare roads for car travel.

Trails Operations: Yellowstone maintains approximately 1,000 miles of interconnected backcountry trails. Activities involve inspecting treadway, trail structures, and hazards; cleaning drainage structures; and removing rockfall and debris. The park has approximately 15 miles of boardwalks that provide access to numerous features in popular geyser basins, waterfalls, and other attractions. These should be regularly inspected, swept, and maintained.

Transportation Systems and Fleet Operations: Yellowstone's Transportation Systems include a large, diverse vehicle fleet (870 units), more than 90 horses and mules, and contract aviation services.

- **Vehicle Fleet:** Fleet managers purchase and assign vehicles to park staff. Most units are outdated and need replacing. Managers are developing a cyclic replacement program that reflects recommendations from major fleet operators in the private sector.

- **Aviation:** All aircraft used at Yellowstone are contracted or rented through the Interior Department's Office of Aircraft Services Aircraft Rental Agreement. In 2002, 900 helicopter flight hours supported wildland fire operations, and 50 helicopter hours supported wildlife capture operations, search and rescue and law enforcement activities, and administrative projects. Over 1,100 fixed-wing hours are flown each year in support of these activities.
- **Horses and Mules:** Corral operations personnel identify animals for replacement, select new stock, and provide all feed and training.

Utilities Operations: Utilities Operations include solid waste, electricity, water, and wastewater operational activities.

- **Solid Waste:** This operation collects, transports, and disposes of park-generated garbage, recyclables, and other waste. Yellowstone generates approximately 3,000 tons of solid waste per year.
- **Electricity:** The park provides electricity to all buildings and pays its electricity providers an average of \$849K per year. In addition, Yellowstone operates 21 generators at 13 locations, as well as several photovoltaic systems.
- **Water Systems:** The park ensures uninterrupted service from 15 public water and 6 nonpublic water systems. Over 300 million gallons of water are treated annually and distributed through 600,000 feet of service-distribution lines with a storage capacity of over 7.5 million gallons of potable water.
- **Wastewater Systems:** Yellowstone operates a tertiary wastewater facility, 5 secondary treatment facilities, 32 sewage lift stations, and 21 septic systems with subsurface drain fields. All wastewater systems are monitored and tested to meet federal and state requirements.

Innovation

Yellowstone strives to implement innovative measures that help the park meet a primary mission—protecting the resources.

Janitorial Operations: Data from a recent study of the park's janitorial products revealed toxicity and health risks, prompting the park to reduce its 130-product inventory to 10 "green" products. Today's procurement policy bans the use of "non-green" products, and highlights Yellowstone as a leader in point source pollution prevention. In addition, it has saved the park 15% in supply costs.

Transportation Systems and Fleet Operations: In 1995, Yellowstone's fleet received its first bio-diesel truck, fueled entirely by an alternative energy source produced from rapeseed oil. After extensive performance and emission testing in collaboration with the Montana Department of Environmental Quality, the Department of Energy, and the University of Idaho, Yellowstone converted its entire fleet of 300 diesel-powered vehicles to bio-diesel.

Electrical Operations: Yellowstone recently installed a 7-kilowatt photovoltaic (solar electric) array at Lamar Buffalo Ranch. The array provides roughly 70% of the buildings' energy needs, saving approximately 60% on fuel each year. Additionally, in 2002 Yellowstone became the first national park to test a demonstration fuel cell to operate the West Entrance station.

Maintenance



Road construction and other infrastructure improvements are ongoing needs that require extensive planning and considerable financial investment.

Yellowstone's Maintenance function is responsible for a vast amount of infrastructure, facilities, and fleet units that must receive regular repair and maintenance. In some cases, the park maintains its own systems (e.g., roads) as well as those of surrounding communities, as there are few county, city, or state-provided services locally available. Park personnel confront unique challenges created by the large geographic separations between park facilities, often travelling long distances to service campgrounds, buildings, restroom facilities, grounds, roads, trails, transportation systems, and utilities.

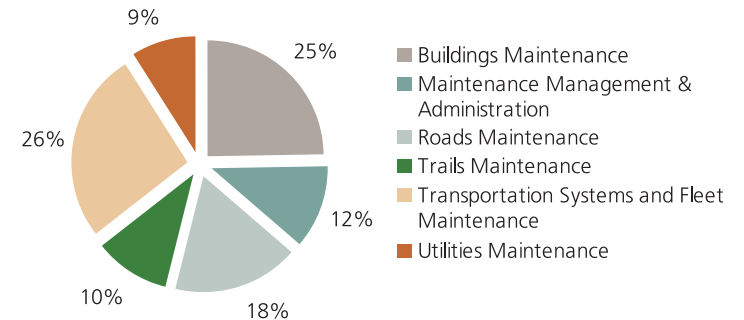
Maintenance expenditures accounted for \$5.5M, or 13% of the park's total FY02 available operating budget of \$41.7M. The largest programs in terms of expenditure were Transportation Systems and Fleet Maintenance (26%); Buildings Maintenance (25%); and Roads Maintenance (18%). The six Maintenance programs have identified \$7.7M in required funding, indicating a shortfall of \$2.2M, primarily in the area of Roads Maintenance.

The Maintenance functional area includes aspects of the divisions of Maintenance; Resource Management and Visitor Protection; and Business Management. Maintenance includes the following programs:

Buildings Maintenance: As stated earlier, Yellowstone owns 1,541 buildings (710 maintained by NPS staff, 831 by concessioners). Ideally, the park strives to implement cyclic, repair, rehabilitative, and preventive maintenance measures to ensure that all buildings are preserved and maintained in a manner that allows each structure to reasonably meet or exceed its life expectancy. Managers are currently focusing on obtaining additional funding that will allow the park to fulfill the following categories of Buildings Maintenance:

- *Cyclic:* These maintenance actions are performed on a regular, scheduled basis and include roof repair, exterior

**Maintenance
FY02 Expenditures by Program**



Total Required		Available		Shortfall	
FTE	Funds	FTE	Funds	FTE	Funds
104	\$7,720,998	77	\$5,532,326	(27)	(\$2,188,672)

- painting, wood floor refinishing, and carpet replacement.
- *Repair and rehabilitation:* These actions are performed when aged facilities require major repair or rehabilitation. Examples include installation of roof anchors, seismic repairs, replacement of heating systems, and asbestos and lead abatement.
- *Preventive:* These maintenance actions limit the future amount of rehabilitation needed, such as annual servicing of heating boilers and furnaces.

Maintenance Management and Administration: Managers provide executive oversight and administrative support for the maintenance program, and are responsible for the overall planning, organization, direction, budgeting, and coordination of all maintenance activities.

Roads Maintenance: Yellowstone's Roads Maintenance program endeavors to ensure that the life expectancy of over 466 miles of roads is prolonged as long as possible

Maintenance expenditures accounted for \$5.5M, or 13% of the park's total FY02 available operating budget of \$41.7M.

with proper preventive maintenance. As the park partners with the Federal Highway Administration to repair and rehabilitate stretches of road each year, managers continue to focus on improving the annual upkeep of both old and new roads. Park personnel have established a preventive maintenance program that would fully support activities such as chip sealing, overlays, and ditch repair. Managers have identified Roads Maintenance as a parkwide priority, and are currently attempting to identify additional operations funds to complete these tasks.

Trails Maintenance: YNP conducts numerous maintenance activities to improve and prolong the life of some 1,000 miles of interconnected backcountry and front-country trails and boardwalks. Maintenance activities reduce or correct damage caused by age, erosion, and wear; increase user safety; and reduce visitor impacts around sensitive resources. These activities include repairing and reconstructing treadway; installing drainage and erosion control devices; repairing bridges, walls, and steps; and rehabilitating abandoned trail segments.



Yellowstone's "four-footed fleet," essential to backcountry operations, requires high-quality care and maintenance.

Transportation Systems and Fleet Maintenance: Yellowstone's Transportation Systems are in need of a more frequent and responsive maintenance program.

- **Vehicle Fleet:** The goals of Yellowstone's Fleet Maintenance program are to maximize vehicle availability, reduce costs, and improve fleet reliability. Managers plan to implement a more proactive and predictive maintenance program, augmented by a fleet rejuvenation plan. A predictive maintenance program forecasts part failures, allowing repairs to be scheduled around the operators' needs and parts availability, thus reducing vehicle downtime.
- **Horses and Mules:** Corral maintenance operations ensure high health standards for animal stock. Horse and mule health care includes regular vaccinations, worming, and first aid. Corrals personnel shoe horses three times each year and maintain saddles, tack, and other equipment.

Utilities Maintenance: The goal of the Utilities Maintenance program is to ensure that preventive, repair, and rehabilitative maintenance measures are applied to over 100 electrical, water, and wastewater systems.

- **Electrical Systems:** The park's electricians are charged with maintaining 21 generators in 13 locations. Preventive maintenance includes oil changes, valve adjustments, and spark plug replacements. Repair and rehabilitation include re-fusing power lines, repairing transfer switches and distribution lines, and rebuilding generators. Electricians also maintain structural electrical systems, prolonging system life and ensuring occupant safety.
- **Water and Wastewater Systems:** Maintenance activities include cyclic replacement of equipment and system components such as laboratory equipment, pumps, chemical feed pumps, filters, meters, treatment motors, collection and distribution lines, valves, and domestic piping. Personnel also perform everyday repair activities that restore water systems to their intended standards of operation.

Necessity is the Mother of Invention

Personnel embrace this motto as they continually overcome hurdles presented by diverse and geographically-separated service requirements and personnel needs. Examples of employees' creative solutions include:

Establishing partnerships: A large proportion of outdoor maintenance must occur during summer months, creating a significant spike in workload for staff. In response, managers have often utilized volunteer labor. In FY02, district personnel solicited 2,000 hours of help from students at three colleges to assist with repair and rehabilitation of docks and cabin restoration. Additionally, trail crews train and supervise volunteers from the Student Conservation Association. Minimum-wage Youth Conservation Corps employees also assist with backcountry trails maintenance each year. In FY02, these low-cost laborers contributed 10,400 hours to trail maintenance.

Innovative designs to decrease costs: Maintenance personnel continually analyze supply expenditures and find ways to minimize costs. For example, Lake personnel decreased maintenance requirements for aids to navigation (material cost range: \$200–\$20,000) by creating sturdier units out of agricultural water tanks (material cost: \$150).

Management and Administration



Communication towers must often be situated in remote locations due to the park's rugged terrain.

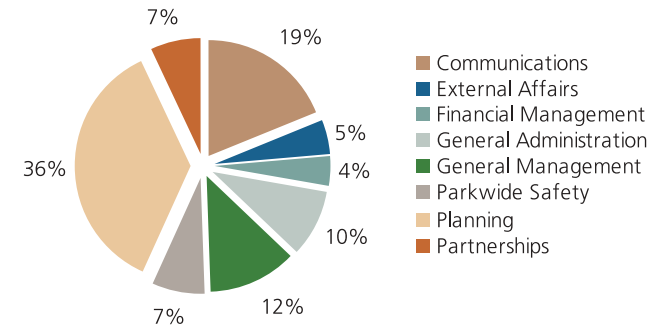
This functional area encompasses parkwide administrative, managerial, and support functions, as well as safety and planning. Because the park is a symbol of America's treasures, public scrutiny of management decisions is intense. The complexity of Yellowstone's operations drives the activities of the park's Management and Administration (M&A) function. For example, new hires require voicemail access, computer services, and training. Providing these services is complicated due to the distance between park facilities and the number of park divisions.

M&A expenditures accounted for \$9.6M, or 23% of the park's total FY02 available operating budget of \$41.7M. The largest program expenditures were in Planning (36%) and Communications (19%). The eight programs have identified \$13.9M in required funding, indicating a shortfall of \$4.3M, primarily in the areas of Communications and Planning.

The M&A functional area includes aspects of the divisions of Administration, Interpretation, and the Office of the Superintendent. The following programs are included:

Communications: Yellowstone requires a wide array of Communications services to operate effectively. In FY02, the park's official web site recorded 28 million hits, providing a "virtual park experience" to visitors worldwide. Additionally, the park provides telephone services and training to over 800 park staff. Leased services and maintenance contracts for park-owned voice and data services cost \$32,000 monthly. The communications program also strives to provide 24-hour, year-round dispatch for law enforcement rangers, fire departments, ambulances, and all other park staff. Communications personnel maintain the park's radio system (valued at over \$1.9M) to provide seamless communication among park staff in all districts for public safety and operational purposes, and protect parkwide as-

**Management & Administration
FY02 Expenditures by Program**



Total Required		Available		Shortfall	
FTE	Funds	FTE	Funds	FTE	Funds
156	\$13,932,110	109	\$9,607,331	(47)	(\$4,324,779)

sets by installing and maintaining alarm systems. Finally, computer services support staff strive to meet the park's computer and networking needs.

External Affairs: Developing and maintaining positive relationships with constituents through the release of public information is crucial. Park staff attend public meetings in gateway communities in Montana, Wyoming, and Idaho, to provide an avenue for communication between park managers and local residents. This dialogue has been highlighted as part of a parkwide priority. The external affairs staff handles approximately 25 Freedom of Information Act requests annually. Planning and conducting special events also requires considerable staff involvement given the high-profile nature of Yellowstone's events. Addressing the approximately 3,500 external media requests per year necessitates that personnel stay informed on all issues affecting the park and respond to media requests with press releases, official statements, interviews, and film footage. A variety of

Because the park is a symbol of America's treasures, public scrutiny of management decisions is intense.

written, telephone, and walk-in requests for information are also handled. Finally, staff manages commercial filming within the park's boundaries, which requires researching approximately 275 requests each year, processing permits if appropriate, and monitoring film crew activities.

Financial Management: Personnel perform all financial planning and tracking activities, including formulation of Yellowstone's annual appropriated base budget request to Congress; execution of the park's total budget, including training users of the accounting systems, processing transactions, reporting functions, and internal audits; and long-range financial planning.

General Administration: Staff provide administrative services to assist in accomplishing Yellowstone's mission. Procurement and supply staff order and distribute supplies and services for all park divisions. Property staff are charged with tracking property as well as disposing of unwanted assets through General Services Administration sales. Administrative personnel receive and distribute approximately 140,000 pieces of mail annually, and receive and fill requests for 2.8 million photocopies per year. Additional services include folding, binding, and laminating documents, and maintaining central files.

General Management: Yellowstone's management team provides executive oversight for the park, including increasing the capabilities of park staff through human resource functions such as recruitment, employee relations, payroll and benefits administration, and training. Management team activities exist to provide the park with strategic leadership in meeting its mission, including priority-setting and program direction. General Management also includes promoting recycling efforts, pollution prevention, waste reduction, and related education through the Greening of Yellowstone initiative.

Parkwide Safety: Yellowstone strives to prevent accidents or harm from coming to people in the park. Ensuring the safety of visitors and employees includes minimizing injuries and providing employee safety training in dealing with hazardous communications, confined spaces, and blood-borne pathogens. Hazardous waste management is another important component of ensuring human safety. Until an environmental safety group is created to oversee the park's hazardous materials program, these duties will continue to be performed collaterally. The park is currently working on a plan to strengthen this function in order to address items identified in a 2002 environmental audit.

Partnerships: Personnel undertake activities pursuant to developing and establishing formal partnerships to achieve the park's mission. This occurs in collaboration with other government agencies, universities, volunteer groups, and nonprofit institutions.

Planning: The Planning program includes infrastructure planning, landscape planning, and parkwide planning activities.

- *Infrastructure Planning:* Maintenance and new capital projects require pre-design, site analysis, and compliance documentation.
- *Landscape Planning:* Yellowstone's landscape architectural staff provide planning and design for historic landscapes, park roads, scenic overlooks, and visitor facility landscapes, all of which require special consideration of Yellowstone's fragile natural and cultural resources.
- *Parkwide Planning:* Park staff address legal challenges, ensure compliance with various laws and policies, and manage the accessibility program. Additionally, personnel coordinate internal planning efforts and work with external entities to address issues facing the park.

Reducing Telecommunications Costs

The telecommunications team is constantly reviewing operations for opportunities to increase efficiency. While each change saves a relatively minor dollar amount, the savings over time are measurable.

The installation of the Private Branch Exchange (PBX) in the 1980s is one example. This equipment allows the park to provide its own service to developed park areas and discontinue paying telecommunications providers for that service. The remainder of the park has continued to lease phone service at an annual cost of approximately \$384K. The park is currently running 632 lines on the PBX. If the entire park depended on leasing service, the yearly bill would be close to \$750K.

Another good example is the installation of the Pair Gain 32 system in 1997. For each phone line privately provided, the park was charged \$40 per month. In 1997, the telecommunications team discovered new technology that would allow them to run 32 phone lines on one channel with a Pair Gain 32 system. This allowed them to disconnect another 23 phone lines the park was leasing. As a result, the total cost per month was reduced from \$1,000 to \$80. The total savings per year from this act alone totals \$11,040.